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Kevin Li

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EXAMINER

ADDY, ANTHONY S

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/723,138	Applicant(s) LI, KEVIN	
	Examiner ANTHONY S. ADDY	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 17, 2008 has been entered. **Claims 1-10** and **12-26** are pending in the present application.

Response to Arguments

2. Applicant's arguments with respect to **claims 1-10** and **12-26** have been considered but are moot in view of the new ground(s) of rejection. Arguments are directed to newly added limitations and the new ground(s) of rejection based on the newly added limitations follow below.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-10 and 12-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject

matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1, 17, 21, 22 and 24 recites the limitations "*wherein the first antenna is for reception and transmission of signals in at least the first frequency band, and the second antenna is only for reception of signals in at least the first frequency band and the second frequency band,*" however, it is not clear and adequately disclosed how the above limitation is carried as per the originally filed specification. This constitutes new matter in the claims, as the limitations are not supported by the original disclosure.

With respect to claims 2-9, 12-16, 18-20, 23 and 25-26, they include the same issues explained above for parent claims 1, 17, 21, 22 and 24. Therefore claims 2-9, 12-16, 18-20, 23 and 25-26 are rejected for the same reasons explained above.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1, 2, 5, 6, 8, 9, 13-14, 16-22 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Leinonen et al., U.S. Publication Number 2003/0176176 A1 (hereinafter Leinonen)** and further in view of **Tarusawa et al., U.S. Patent Number 5,715,525 (hereinafter Tarusawa)**.

Regarding claims 1 and 22, Leinonen teaches an apparatus (*e.g. antenna system 1e & 1f*) (see abstract and Figs. 1c, 4 & 5), comprising: a first module for

configuring (*e.g.*, *tuner 20*) a first antenna (*antenna 12*) that facilitates reception of signals in at least a first frequency band (*e.g.*, *GSM-850*) (p. 4 [0057], p. 5 [0062] and Figs. 1c & 5); and a second module for configuring (*e.g.*, *tuner 22*) a second antenna (*antenna 13*) that facilitates reception of signals in a second frequency band (*i.e.*, *WCDMA-1900*) and at least the first frequency band (*i.e.*, *GSM-850*) received by the first antenna (see p. 4 [0057], p. 5 [0062] and Figs. 1c & 5).

Leinonen fails to explicitly teach a control component configured to determine whether a received signal comprises signal in the second frequency band, wherein the second antenna is configured for reception of signals in the second frequency band when the control component determines that the received signal comprises signals in the second frequency band.

However, Leinonen teaches a processor 94 (*i.e.*, *reads on a control component*) for providing a control signal to a switch 34, and the switch 34 under the received control signal conveys signals received by the antenna 13 in the second frequency band (*i.e.*, *WCDMA-1900*) to the WCDMA-1900 receiver 54 (see p. 5 [0062] and Fig. 5).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Leinonen to include a control component configured to determine whether a received signal comprises signal in the second frequency band, wherein the second antenna is configured for reception of signals in the second frequency band when the control component determines that the received signal comprises signals in the second frequency band, in order to configure a first antenna and second antenna to receive signals in a first or second frequency range and convey

the received signals in the first or second frequency range to a first or second receiver, when the device is operating in the first or second mode as taught by Leinonen (see p. 2 [0036-0037] and p. 3 [0038]).

The modification of Leinonen fails to explicitly teach wherein the first antenna is for reception and transmission of signals in at least the first frequency band, and the second antenna is only for reception of signals in at least the first frequency band and the second frequency band.

However, the use of a first antenna for reception and transmission of signals in at least a first frequency band, and a second antenna only for reception of signals in at least the first frequency band is very well known in the art as taught for example by Tarusawa.

In an analogous field of endeavor, Tarusawa teaches a radio frequency circuit for a portable radio communication device, comprising two antennas A1 and A2, wherein antenna A1 **functions as a transmission and reception antenna** when the TDD system is selected, and additionally when the FDD system is selected, the antenna A1 is also used for not only transmission, but also for diversity reception (see col. 6, lines 1-7 & 34-38 and col. 8, lines 20-28). Tarusawa further teaches the antenna A1 is designed so as to resonate at all of the frequency bands Ba, Bb, and Bc, and also the antenna A2 **functions only as a reception antenna** when the FDD system is used, and designed to resonate at the frequency band Bb of FDD reception (*i.e., at least the frequency band of antenna A1*) (see col. 6, lines 30-38 and col. 8, lines 25-31). One of ordinary skill in the art further recognizes that Leinonen teaches that when the system is

operating in the GSM mode, it is possible to tune the antenna 13 (*i.e., the second antenna*) to a reception frequency of the GSM-850 mode (*i.e., the frequency of the first antenna, 12*), so that the second antenna (13) also receives in the GSM mode as well as the reception frequency (*i.e., WCDMA-1900*) of the second antenna (13) (see p. 4 [0057]).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Leinonen with the teachings of Tarusawa to include an apparatus, wherein the first antenna is for reception and transmission of signals in at least the first frequency band, and the second antenna is only for reception of signals in at least the first frequency band and the second frequency band, in order to provide an antenna in a communication device that resonates to a plurality of frequency bands to optimize the characteristics of the antenna as taught by Tarusawa (see col. 6, lines 30-38 and col. 8, lines 25-31).

Regarding claims 17 and 24, Leinonen teaches system and a method (see abstract and Figs. 1c, 4 & 5), comprising: providing a first module (*e.g., tuner 20*) for configuring a first antenna (*antenna 12*) that facilitates reception of signals in at least a first frequency band (*e.g., GSM-850*) (see p. 4 [0057], p. 5 [0062] and Figs. 1C & 5); and providing a second module (*e.g., tuner 22*) for configuring a second antenna (*antenna 13*) that facilitates reception of signals in a second frequency band (*i.e., WCDMA-1900*) and at least the first frequency band (*e.g., GSM-850*) received by the first antenna (see p. 4 [0057], p. 5 [0062] and Figs. 1c & 5).

Leinonen fails to explicitly teach providing a control component for determining whether a received signal comprises signals in the second frequency band, and providing a first tuning component for tuning the second antenna for reception of signals in the second frequency band when the control component determines that the received signal comprises signals in the second frequency band.

However, Leinonen teaches a processor 94 (*i.e., reads on a control component*) for providing a control signal to a switch 34, and the switch 34 under the received control signal conveys signals received by the antenna 13 in the second frequency band (*i.e., WCDMA-1900*) to the WCDMA-1900 receiver 54 (see p. 5 [0062] and Fig. 5).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Leinonen to include a method of providing a control component for determining whether a received signal comprises signals in the second frequency band, and providing a first tuning component for tuning the second antenna for reception of signals in the second frequency band when the control component determines that the received signal comprises signals in the second frequency band, in order to configure a first antenna and second antenna to receive signals in a first or second frequency range and convey the received signals in the first or second frequency range to a first or second receiver, when the device is operating in the first or second mode as taught by Leinonen (see p. 2 [0036-0037] and p. 3 [0038]).

The modification of Leinonen fails to explicitly teach wherein the first antenna is for reception and transmission of signals in at least the first frequency band, and the

second antenna is only for reception of signals in at least the first frequency band and the second frequency band.

However, the use of a first antenna for reception and transmission of signals in at least a first frequency band, and a second antenna only for reception of signals in at least the first frequency band is very well known in the art as taught for example by Tarusawa.

In an analogous field of endeavor, Tarusawa teaches a radio frequency circuit for a portable radio communication device, comprising two antennas A1 and A2, wherein antenna A1 **functions as a transmission and reception antenna** when the TDD system is selected, and additionally when the FDD system is selected, the antenna A1 is also used for not only transmission, but also for diversity reception (see col. 6, lines 1-7 & 34-38 and col. 8, lines 20-28). Tarusawa further teaches the antenna A1 is designed so as to resonate at all of the frequency bands Ba, Bb, and Bc, and also the antenna A2 **functions only as a reception antenna** when the FDD system is used, and designed to resonate at the frequency band Bb of FDD reception (*i.e., at least the frequency band of antenna A1*) (see col. 6, lines 30-38 and col. 8, lines 25-31). One of ordinary skill in the art further recognizes that Leinonen teaches that when the system is operating in the GSM mode, it is possible to tune the antenna 13 (*i.e., the second antenna*) to a reception frequency of the GSM-850 mode (*i.e., the frequency of the first antenna, 12*), so that the second antenna (13) also receives in the GSM mode as well as the reception frequency (*i.e., WCDMA-1900*) of the second antenna (13) (see p. 4 [0057]).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Leinonen with the teachings of Tarusawa to include a method and a system, wherein the first antenna is for reception and transmission of signals in at least the first frequency band, and the second antenna is only for reception of signals in at least the first frequency band and the second frequency band, in order to provide an antenna in a communication device that resonates to a plurality of frequency bands to optimize the characteristics of the antenna as taught by Tarusawa (see col. 6, lines 30-38 and col. 8, lines 25-31).

Regarding claim 21, Leinonen teaches a method (see abstract), comprising: providing a mobile communication device that includes a first antenna (*antenna 12*) tuned to receive a signal in at least a first frequency band (*e.g., GSM-850*) (see p. 4 [0057], p. 5 [0062] and Figs. 1C & 5) and a second antenna (*antenna 13*) tuned to receive signals in a second frequency band (*i.e., WCDMA-1900*) and at least the first frequency band (*i.e., GSM-850*) (see p. 4 [0057], p. 5 [0062] and Figs. 1c & 5); coupling the second antenna to a first switch (see p. 5 [0062] and Fig. 5); further coupling the first switch to one of a first tuning circuit that facilitates tuning the second antenna for reception of a signal in second frequency band and a second tuning circuit that facilitate tuning the second antenna for reception of a signal in at least the first frequency band received by the first antenna (see p. 4 [0057], p. 5 [0062] and Fig. 5); coupling the second antenna to a second switch (see p. 5 [0062] and Fig. 5); and further coupling the second switch to one of first receiving component that facilitates one of processing, transduction, and modulation of a signal in the second frequency band and a second

receiving component that facilitates one of processing, transduction, and modulation of a signal in at least the first frequency band received by the first antenna (see p. 4 [0057], p. 5 [0062] and Fig. 5).

Leinonen fails to explicitly teach providing a control component configured to determine whether a received signal comprises signal in the second frequency band and tuning the second component for reception of a signal in a second frequency band when the control component determines that the received signal comprises signals in the second frequency band.

However, Leinonen teaches a processor 94 (*i.e., reads on a control component*) for providing a control signal to a switch 34, and the switch 34 under the received control signal conveys signals received by the antenna 13 in the second frequency band (*i.e., WCDMA-1900*) to the WCDMA-1900 receiver 54 (see p. 5 [0062] and Fig. 5).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Leinonen to include a method of providing a control component configured to determine whether a received signal comprises signal in the second frequency band and tuning the second component for reception of a signal in a second frequency band when the control component determines that the received signal comprises signals in the second frequency band, in order to configure a first antenna and second antenna to receive signals in a first or second frequency range and convey the received signals in the first or second frequency range to a first or second receiver, when the device is operating in the first or second mode as taught by Leinonen (see p. 2 [0036-0037] and p. 3 [0038]).

The modification of Leinonen fails to explicitly teach wherein the first antenna is for reception and transmission of signals in at least the first frequency band, and the second antenna is only for reception of signals in at least the first frequency band and the second frequency band.

However, the use of a first antenna for reception and transmission of signals in at least a first frequency band, and a second antenna only for reception of signals in at least the first frequency band is very well known in the art as taught for example by Tarusawa.

In an analogous field of endeavor, Tarusawa teaches a radio frequency circuit for a portable radio communication device, comprising two antennas A1 and A2, wherein antenna A1 **functions as a transmission and reception antenna** when the TDD system is selected, and additionally when the FDD system is selected, the antenna A1 is also used for not only transmission, but also for diversity reception (see col. 6, lines 1-7 & 34-38 and col. 8, lines 20-28). Tarusawa further teaches the antenna A1 is designed so as to resonate at all of the frequency bands Ba, Bb, and Bc, and also the antenna A2 **functions only as a reception antenna** when the FDD system is used, and designed to resonate at the frequency band Bb of FDD reception (*i.e., at least the frequency band of antenna A1*) (see col. 6, lines 30-38 and col. 8, lines 25-31). One of ordinary skill in the art further recognizes that Leinonen teaches that when the system is operating in the GSM mode, it is possible to tune the antenna 13 (*i.e., the second antenna*) to a reception frequency of the GSM-850 mode (*i.e., the frequency of the first antenna, 12*), so that the second antenna (13) also receives in the GSM mode as well

as the reception frequency (*i.e.*, *WCDMA-1900*) of the second antenna (13) (see p. 4 [0057]).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Leinonen with the teachings of Tarusawa to include a method, wherein the first antenna is for reception and transmission of signals in at least the first frequency band, and the second antenna is only for reception of signals in at least the first frequency band and the second frequency band, in order to provide an antenna in a communication device that resonates to a plurality of frequency bands to optimize the characteristics of the antenna as taught by Tarusawa (see col. 6, lines 30-38 and col. 8, lines 25-31).

Regarding claims 2, 13 and 20, Leinonen in view of Tarusawa teaches all the limitations of claims 1 and 17. Leinonen in view of Tarusawa further teaches a mobile telephone, further comprising tuning the second antenna to receive signals in the second frequency band when the control component determines that the received signal comprises signals in the second frequency band (see *Leinonen*, p. 4 [0057] and p. 5 [0062]).

Regarding claim 5, Leinonen in view of Tarusawa teaches all the limitations of claim 1. Leinonen in view of Tarusawa further teaches an apparatus, wherein the second module comprises: a first tuning component configured to tune the second antenna for reception of signals in the second frequency band; and a second tuning component configured to tune the second antenna for reception of signals in at least the

first frequency band received by the first antenna (see *Leinonen*, p. 4 [0057], p. 5 [0062] and Fig. 5).

Regarding claim 8, Leinonen in view of Tarusawa teaches all the limitations of claim 1. Leinonen in view of Tarusawa further teaches the apparatus, further comprising: a first receiving component that facilitates at least one of transduction, modulation, and processing of a signal in at least the first frequency band received by the first antenna; and a second receiving component that facilitates at least one of transduction, modulation, and processing of a signal in the second frequency band (see *Leinonen*, p. 4 [0057], p. 5 [0062] and Fig. 5).

Regarding claims 6 and 9, Leinonen in view of Tarusawa teaches all the limitations of claims 5 and 8. Leinonen in view of Tarusawa further teaches the apparatus, further comprising a radio frequency switch configured to couple the second antenna to one of the first tuning component and the second tuning component (see *Leinonen*, p. 4 [0057], p. 5 [0062] and Fig. 5).

Regarding claim 16, Leinonen in view of Tarusawa teaches all the limitations of claim 1. Leinonen in view of Tarusawa further teaches the apparatus, further comprising: a first switch that couples one of a first tuning component and a second tuning component of the second module to the second antenna, wherein the first tuning component facilitates reception of a signal in the second frequency band on the second antenna and the second tuning component facilitates reception of a signal in at least the first frequency band received by the first antenna on the second antenna (see *Leinonen*, p. 4 [0057], p. 5 [0062] and Fig. 5); a second switch that couples one of a first receiving

component and a second receiving component to the second antenna, wherein the first receiving component facilitates one of transduction, modulation, and processing of the signal in the second frequency band and the second receiving component facilitates one of transduction, modulation, and processing of a signal in at least the first frequency band received by the first antenna (see *Leinonen*, p. 4 [0057], p. 5 [0062] and Fig. 5); wherein the control component is configured to relay commands to at least one of the first switch and second switch to facilitate a desirable coupling, the coupling based at least in part upon whether the received signal comprises signals in the second frequency band (see *Leinonen*, p. 4 [0057], p. 5 [0062] and Fig. 5).

Regarding claims 14, 18 and 19, *Leinonen* in view of *Tarusawa* teaches all the limitations of claims 1 and 17. *Leinonen* in view of *Tarusawa* further teaches a radiating element that is coupled to a transmission line, and wherein a length of the transmission line is selectable between at least two lengths and altering an electrical length of a resonating element associated with the second antenna to tune the second antenna (see *Leinonen*, p. 4 [0057] and p. 5 [0066] and *Tarusawa*, col. 6, lines 9-29).

Regarding claim 25, *Leinonen* in view of *Tarusawa* teaches all the limitations of claim 1. *Leinonen* in view of *Tarusawa* further teaches the apparatus, wherein the first frequency band is a personal communication service band, a cellular band, a Korean personal communication band, or a China personal communication service band (see *Leinonen*, p. 4 [0057] and p. 5 [0062]).

7. Claims 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Leinonen et al., U.S. Publication Number 2003/0176176 A1 (hereinafter Leinonen)** and **Tarusawa et al., U.S. Patent Number 5,715,525 (hereinafter Tarusawa)** as applied to claims 5 and 9 above, and further in view of **Braun et al., U.S. Patent Number 6,980,782 (hereinafter Braun)**.

Regarding claims 7 and 10, Leinonen in view of Tarusawa teaches all the limitations of claims 5 and 9. Leinonen in view of Tarusawa fails to explicitly teach the radio frequency switch being one of a PIN-diode, a micro electro-mechanical system switch, and a field effect transistor switch.

In an analogous field of endeavor, Braun teaches an antenna device for transmitting and receiving radio frequency waves installable in a communication device includes an antenna structure switchable between antenna configuration states, wherein an antenna switching unit may be PIN diode switches, GaAs field effect transistors (FET), or microelectromechanical system (MEMS) switches (see abstract, col. 11, lines 15-24 and Fig. 7a).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify Leinonen and Tarusawa with Braun, wherein the RF switch is one of a PIN-diode, a MEMS switch, and a FET switch, in order to electrically connect and disconnect antenna elements in parallel or in series with each other, or completely connect or disconnect one or more antenna elements to ground as taught by Braun (see col. 11, lines 15-24).

8. Claims 3, 4, 15 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Leinonen et al., U.S. Publication Number 2003/0176176 A1 (hereinafter Leinonen)** and **Tarusawa et al., U.S. Patent Number 5,715,525 (hereinafter Tarusawa)** as applied to claims 1 and 22 above, and further in view of **Eggleston, U. S. Patent Number 6,414, 640 (hereinafter Eggleston)**.

Regarding claims 3, 4, 15 and 23, Leinonen in view of Tarusawa teaches all the limitations of claims 1 and 22. Leinonen in view of Tarusawa fails to explicitly teach wherein the second antenna is a top-mounted inverted F-antenna and the inverted F-antenna exhibits circular polarization characteristics.

However, the use of a top-mounted inverted F-antenna exhibiting circular polarization characteristics is very well known in the art as taught for example by Eggleston. Eggleston teaches a top-mounted inverted F-antenna (TOPIFA) used in a mobile station, and wherein the top-mounted inverted F-antenna assembly exhibits circular polarization characteristics (see col. 3, lines 35-47, col. 3, lines 64-67, col. 5, lines 39-52 and Fig. 3). According to Eggleston, the antenna assembly is used in a mobile station operable pursuant to conventional cellular operation as well as to receive GPS signals used for positioning purposes and because of the circular polarization characteristics of the resultant antenna transducer, a relatively high antenna gain characteristic is provided by the antenna transducer (see col. 6, lines 29-41). It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to implement the antenna assembly of Eggleston in the communication

system of Leinonen and Tarusawa, in order to realize a relatively high antenna gain characteristic.

9. Claims 12 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Leinonen et al., U.S. Publication Number 2003/0176176 A1 (hereinafter Leinonen)** and **Tarusawa et al., U.S. Patent Number 5,715,525 (hereinafter Tarusawa)** as applied to claim 1 above, and further in view of **Balchunas et al., U.S. Publication Number 2006/0097171 A1 (hereinafter Balchunas)**.

Regarding claims 12 and 26, Leinonen in view of Tarusawa teaches all the limitations of claim 1. Leinonen in view of Tarusawa fails to explicitly teach a system, further comprising an emergency component that automatically configures the second antenna to receive a signal in the second frequency band upon transmitting data to an emergency number and wherein the second frequency band is a global positioning band.

In an analogous field of endeavor, Balchunas teaches a GPS enabled wireless personal communication device, further comprising an emergency component that automatically configures the second antenna to receive a GPS signal upon transmitting data to an emergency number (see p. 5 [0045 & 0047] and Fig. 3; shows an automatic dialer 335 [i.e. reads on emergency component] that automatically configures antenna 375 to receive a GPS signal).

It would therefore have been obvious to one of ordinary skill in the art at the of the invention to modify Leinonen and Tarusawa with the teachings of Balchunas, in

order to enable various communications without user interface, such as autodialing using an automatic dialer module to dial the number of an emergency response center to report pertinent information regarding radiation levels and provide location specific information as taught by Balchunas (see p. 5 [0044-0048]).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Harano, U.S. Publication Number 2001/0016477 A1 discloses diversity receiver.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY S. ADDY whose telephone number is (571)272-7795. The examiner can normally be reached on Mon-Thur 8:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on 571-272-7687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anthony S Addy/
Examiner, Art Unit 2617

/Alexander Eisen/

Supervisory Patent Examiner, Art Unit 2617